



State of Utah

DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER QUALITY

M/045/017

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SEP 10 1993

DIVISION OF
OIL, GAS & MINING

September 3, 1993

Mr. Clayton L. Landa
Vice President & General Manager
Barrick Mercur Gold Mines
P.O. Box 838
Tooele, Utah 84074

RE: **Reservation Canyon Tailing Impoundment:
1993 Expansion Construction Permit**

Dear Mr. Landa:

We have completed our review of the plans and specifications for the expansion of the Reservation Canyon Tailings Impoundment at Barrick Mercur Gold Mine in Tooele County, prepared by your engineering department, and submitted to us on February 22, 1993. Meetings, phone discussions, and correspondence during the review process took place on March 4 and 27, April 13, 19, 28 and 29, May 4 and 27, June 3, and July 8, 1993 to resolve the issues pertinent to the liner design and construction QA/QC. Supplemental information was received on August 20, 1993.

The plans and specifications as submitted, comply with the *Utah Water Quality Rules*, (R317, *Utah Administrative Code*). A **Construction Permit** is hereby issued as constituted by this letter, subject to the following conditions:

1. *Any revisions or modifications to the approved plans and specifications must be submitted to the Division of Water Quality (the Division) for review and approval, before construction or implementation thereof.*
2. *The approved facilities must not be placed in service unless the Division has made a final inspection, and has authorized in writing to place the constructed facilities in service.*
3. *During construction of the clay liner, triaxial permeability tests under constant head back-pressure shall be run, using ASTM method D-5084, on undisturbed Shelby tube samples, at a rate of a minimum of one sample per every 20,000 square feet of the area of each lift, or part thereof. Corrective measures shall be implemented in consultation with the Division if tests show permeability in excess of 1×10^{-7} centimeter per second.*

This construction permit will expire *one year from the date of issue*, unless substantial progress is made in constructing the approved facilities, or the plans and specifications have been resubmitted and the construction permit is reissued. This permit does not relieve you in any way of your obligations to comply with other applicable local requirements, or permits. You may contact Mr. Myron Bateman, Tooele County Health Department at (801) 882-5550 for further assistance in this regard.

The construction will include: (1) raising the tailings reservoir dikes from the present containment elevation of 7290 feet to a new containment elevation of 7305 feet; (2) raising the Main Buttress and the Levee Buttress by 15 feet each to containment elevations of 7305 feet; and, (3) the extension of the impoundment liner to the 7320 feet elevation. The impoundment liner will be a clay shale liner with a minimum of twelve (12) inches in compacted thickness. The liner will cover a surface area of approximately twelve (12) acres on reservoir side slopes of 3:1 as a minimum. The field hydraulic conductivity of the compacted clay liner will be 1×10^{-7} centimeter per second or less. The clay liner will be protected from erosion and desiccation cracking by using four to six inches of unclassified, uncompacted earthen fill, and a woven geotextile, AMOCO 2006 or equivalent. The construction will be as shown on Drawings Nos. 6.93.1 to 6.93.12 dated February 18, 1993, and the construction specifications, as approved on September 3, 1993 by the Utah Water Quality Board.

During the construction, the construction quality assurance testing by a third party independent contractor, inspections, and the reporting will be performed as per the requirements of the approved construction specifications, and the appendix titled "*Inspection and Quality Assurance (QA) Specification*" as approved by the Division.

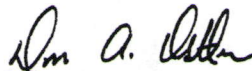
A set of approved plans, specifications, and the QA document are returned herewith bearing an imprint of our construction permit stamp. The stamped set must be kept available for examination and inspections to be conducted by the Division, or for resolution of any conflicts or discrepancies that may arise during construction or installation.

Please advise us of the beginning of construction. This will enable us to schedule periodic inspections. We request that a copy of record drawings be provided after the final inspection has been conducted by the Division, and completed works have been placed in service. This will enable us to keep our information accurate.

If we can be of further assistance, please contact Mr. C.C. Patel, P.E. of my staff.

Sincerely,

Utah Water Quality Board



Don A. Ostler, P.E.
Executive Secretary

Enclosure

DAO:ccp:rvg

cc: Tooele County Health Department, Myron Bateman
Division of Oil, Gas & Mining, Wayne Hedberg
Division of Water Resources, Richard Hall
Larry Mize, Groundwater Protection Section